

## Talking about CIRM

*As a Patient Advocate, you're likely to get many questions about CIRM and what the agency is hoping to accomplish. Below are answers to some of the most commonly asked questions:*

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## What is CIRM?

California's stem cell agency, the California Institute for Regenerative Medicine, or CIRM, was created by voters in 2004 with the overwhelming passage of Proposition 71, which authorized \$3 billion in funding for stem cell research. At CIRM our mission is to accelerate stem cell treatments to patients with unmet medical needs.

## What does the stem cell agency do?

CIRM funds research that we hope will lead to the development of treatments and cures for a wide range of deadly diseases. So far CIRM is working on treatments for 40 different diseases. Several CIRM-funded projects have already led to clinical trials—meaning they have moved out of the lab and are being tested in people—and there are several others that are on track to go into clinical trials in the next year or so.

## Why are stem cells important?

The power of stem cells lies in their potential to replace, regenerate or repair damaged cells, tissues or organs. Some therapies, such as bone marrow transplants, already make use of stem cell technology. Other therapies that are in development involve transplanting stem cells into a damaged body part and directing them to grow and transform into healthy tissue to repair the damage. All told, the power of stem cell biology and regenerative medicine has the potential to forever change how doctors treat humankind's most devastating conditions.

## What progress has CIRM made?

Since CIRM started funding research in 2007, we have made tremendous progress. We have funded 16 projects in clinical trials, with many more promising therapies hoping to get approval for clinical trials in the near future. Good science takes time—remember it took 15 years of focused research to develop the polio vaccine—so it really is quite remarkable to see what stem cell research has accomplished in just half that time.

## How has CIRM invested the money?

The money has been used to build an entirely new industry in California from the ground up, thus positioning our state as a global leader in stem cell research. Some of the money has been invested in building new research facilities, training the next generation of researchers and bringing some of the best scientists in the world to California. CIRM funding has created 38,000 job-years, (for more information, visit: <http://go.usa.gov/9CgF>) and generated almost \$300 million in new tax revenues for California (for more explanation about tax revenues visit: <http://go.usa.gov/9Cgd>). But CIRM's primary goal has always been advancing the progress of the research itself—the vast majority of CIRM funding has been funneled toward projects aimed at ultimately providing treatments and cures for deadly diseases.

## **Should Californians consider this a good investment?**

Absolutely. The people of California should feel proud of their decision to create CIRM, and of the work that the agency has done and continues to do. The money spent has created a whole new industry, making California a worldwide leader in stem cell research. The treatments that result from CIRM funding will not only improve the health of Californians, they will also generate income from sales of those therapies—a portion of the profits from those sales will go straight into the state's General Fund. More importantly, since these therapies have the potential to eliminate some of the costs of treating chronic diseases such as diabetes—which costs California alone around \$28 billion a year<sup>[1]</sup>—it will save both the state and every employer that provides health insurance significant money.

## **Should the state be involved in using taxpayer money to fund medical research?**

The people of California knew it was a wise investment when they approved Proposition 71 by 59 percent, with a goal of accelerating the development of successful therapies for patients with unmet medical needs. Promoting health is in California's DNA—California is famous as a world leader in science, health and medicine. It was the first to pass tough laws on climate control and smoking, and the first to introduce smog checks on cars for cleaner air. Creating a pioneering program that has the potential to improve the health of millions of Californians clearly fits into that tradition.

## **What happens when CIRM runs out of money?**

Right now CIRM has enough money to continue giving out new awards until at least 2020. That being said, we are also exploring a number of different options to help us continue with our work—including everything from attracting support from the biotech and pharmaceutical industries to philanthropic donations. One thing is for certain: without CIRM, some of the most promising stem cell therapies will die for lack of funding and never reach a single patient. We think the promise of this research far too important to let that happen.

## **Why is CIRM still funding work on human embryonic stem cells when we can focus on induced pluripotent cells?**

Induced pluripotent stem cells, or iPS cells, are very promising and we are funding a number of iPS cell-based research projects. But this kind of technology is still very new and there are many unanswered questions about the safety and effectiveness of these cells over other stem cell types. As of right now, we don't know which kind of stem cell might work best for which therapy, and embryonic stem cells are still the gold standard. Remember a few years ago when 33 Chilean miners were trapped underground after a mine collapsed? Rescuers were in a race against time to save them so they dug three different tunnels, using three different methods. They didn't know which method would work but realized they couldn't afford to take a gamble on just one, so they used all three methods. They got the miners out. We don't think we can afford to gamble on guessing which kind of stem cell will be best, so we continue working with and funding many different kinds.

## **Is this research taking away money from other state services?**

No. The money doesn't come out of the state's General Fund and so it wouldn't otherwise go to schools, transportation or any other kind of service. This is money raised from the sale of bonds. No other state service suffers or gets less money because of us. In fact, CIRM hopes these vital services will actually see more money in time, as a portion of the profits generated from the therapies we have helped develop will be added to the state's General Fund.

[1] Figures come from a 2012 study by the American Diabetes Association.

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